

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: **Toshihiko SUENAGA et al.**

Serial No.: **Not Yet Assigned**

Filed: **Herewith**

For: **FUEL CELL AND FUEL CELL STACK**

Attorney Docket No.: **SIW-031**

Group Art Unit:

Examiner:

BOX PATENT APPLICATION

Commissioner for Patents

Washington, D.C. 20231

PRELIMINARY AMENDMENT

Dear Sir:

Preliminary to examination of the above-referenced patent application, please amend the application as follows.

In the Claims:

Please amend claims 1, 3, 6, 7, 8, 10, 11, 16 and 17 as follows:

1. (Amended) A fuel cell comprising:
 - a pair of separators sandwiching a pair of electrodes provided on both sides of a solid polymer electrolyte membrane; and
 - a nonconductive picture frame-shaped member allowing increase and decrease of a space between the separators while a sealing space is provided between adjacent separators at an outer edge of separator.

3. (Amended) A fuel cell according to claim 1, wherein said separator is made of a metal, and said picture frame-shaped member is formed of a hard material and an elastic material.
6. (Amended) A fuel cell according to claim 1, further comprising a reaction surface peripheral sealing member which surrounds a reaction surface of said separator, wherein an outside portion of said reaction surface peripheral sealing member is covered by an insulating outer edge member.
7. (Amended) A fuel cell according to claim 6, wherein both outside surfaces of said reaction surface peripheral sealing member are totally covered by an insulating outer edge member which is integrally formed with said reaction surface peripheral sealing member.
8. (Amended) A fuel cell according to claim 7, wherein one of said reaction surface peripheral sealing member of adjacent separators is formed in a flat shape, and the other reaction surface peripheral sealing member which faces said flat reaction surface peripheral sealing member is formed so as to protrude.
10. (Amended) A fuel cell, comprising a pair of separators sandwiching a pair of electrodes formed on both surfaces of a solid polymer electrolyte membrane, and insulating members provided around communication holes formed in said separators, so as to form a space between the insulating members.
11. (Amended) A fuel cell according to claim 10, wherein a space is provided between two of said insulating members of adjacent separators in the stacking direction of the separators.

16. (Amended) A fuel cell according to claim 15, comprising reaction surface peripheral sealing members surrounding reaction surfaces of said separator, wherein one of the reaction surface peripheral sealing member of one separator among adjacent separators is formed in a flat shape, while another one of the reaction surface peripheral sealing member of another separator facing said flat reaction surface peripheral member is formed in a protruded shape.

17. (Amended) A fuel cell according to claim 16, wherein an outside portion of said reaction surface peripheral sealing member is totally covered by said insulating member.

REMARKS

Preliminary to examination of this application, please amend claims 1, 3, 6, 7, 8, 10, 11, 16 and 17 as set forth above. These amendments attend to minor formal matters. The foregoing amendments are not related to issues of patentability. Support for the amendments to the claims can be found throughout the specification, Figures and claims as originally filed.

Applicants respectfully submit that the foregoing amendments introduce no new matter. Entry of the foregoing Preliminary Amendment is in order and requested.

If there are any questions regarding the proposed amendments to the application, we invite the Examiner to call Applicants' representative at the telephone number below.

Respectfully submitted,

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Date: January 28, 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Please amend claims 1, 3, 6, 7, 8, 10, 11, 16 and 17 as follows:

1. (Amended) A fuel cell comprising:
a pair of separators sandwiching ~~[clamping]~~ ~~outsides of~~ a pair of electrodes provided on both sides of a solid polymer electrolyte membrane ~~[film]~~; and
a nonconductive picture frame-shaped member allowing increase and decrease of a space between the separators while a sealing space is provided between adjacent separators at ~~the~~ an outer edge of separator.
3. (Amended) A fuel cell according to claim 1, wherein said separator is made of a metal, and said picture frame-shaped member is formed of a hard material and ~~a~~ an elastic material.
6. (Amended) A fuel cell according to claim 1, further comprising a reaction surface peripheral sealing member which surrounds a reaction surface of said separator, ~~and the~~ wherein an outside portion of said reaction surface peripheral sealing member is covered by an insulating outer edge member.
7. (Amended) A fuel cell according to claim 6, wherein both outside surfaces of said reaction surface peripheral sealing member ~~is~~ are totally covered by an insulating outer edge member which is integrally formed with said reaction surface peripheral sealing member.

8. (Amended) A fuel cell according to claim 7, wherein one of said reaction surface peripheral sealing member of adjacent separators is formed in a flat shape, and the other reaction surface peripheral sealing member which faces ~~to~~ said flat reaction surface peripheral sealing member is formed so as to protrude.

10. (Amended) A fuel cell, comprising a pair of separators sandwiching a pair of electrodes formed on both surfaces of a solid polymer electrolyte membrane, and insulating members ~~are~~ provided around communication holes formed in said separators, so as to form ~~each~~ a space between ~~each two~~ the insulating members.

11. (Amended) A fuel cell according to claim 10, wherein a space is provided between ~~each~~ two of said insulating members of ~~the~~ adjacent separators in the stacking direction of the separators.

16. (Amended) A fuel cell according to claim 15, comprising ~~a~~ reaction surface peripheral sealing members surrounding ~~the~~ reaction surfaces of said separator, wherein one of the reaction surface peripheral sealing member of one separators among adjacent separators is formed in a flat shape, while another one of the reaction surface peripheral sealing member of another separators facing ~~to~~ said flat reaction surface peripheral member is formed in a protruded shape.

17. (Amended) A fuel cell according to claim 16, wherein ~~the~~ an outside portion of said reaction surface peripheral sealing member is totally covered by said insulating member.